

REMARKS

Claim 8 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Ikeda et al. '049 ("Ikeda"). In order to expedite prosecution, claim 8 has been amended, without prejudice/disclaimer to the subject matter embodied thereby, to include the feature of claim 9, so as to render this rejection moot.

Claim 8, as amended, stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ikeda. This rejection is respectfully traversed for the following reasons.

Claim 8 recites in pertinent part, "a *choke coil* for smoothing an output of the rectifier, and a common control circuit for controlling the plurality of switching elements, wherein the two or more switching power supplies are connected to an input power supply so that the capacitors are connected in series, output voltages generated by the two or more switching power supplies are outputted to a common output terminal, the control circuit switches the plurality of switching elements in the plurality of switching power supply units at regular intervals *and regular time ratios*, the *windings of the transformer are made of stacked plate-shaped conductors*" (emphasis added). It is respectfully submitted that Ikeda does not disclose or suggest each and every limitation of the claimed *combination*.

According to one aspect of the present invention, a circuit configuration realizing a decreased voltage applied to the primary winding of the transformer can be obtained whereby noise transmission can be suppressed. Specifically, the *combination* of stacked plate-shaped conductors having large stray capacitance can effect the aforementioned operational benefits. In addition, when a choke coil is connected and the switching elements are turned on/off at regular time ratios, the application voltage of the capacitor

connected to the input voltage can be automatically balanced. Accordingly, imbalance found in the conventional capacitor design can be obviated.

In this regard, it should be noted that the claimed control circuit switches the plurality of switching elements in the plurality of switching power supply units at regular intervals ***and regular time ratios***, which structurally defines the control circuit in functional terms so as to be afforded patentable weight. That is, the control circuit is internally configured to effect the aforementioned functionality. Ikeda appears silent as to such an internal configuration of the alleged control circuit. Indeed, only Applicants have recognized and considered the aforementioned effects; and conceived of the novel combination of a choke coil, common control circuit configured to effect the aforementioned functionality, with windings of the transformer being made of plate-shaped conductors, that can realize said effects.

With respect to the windings of the transformer being made of plate-shaped conductors, the Examiner admits that Ikeda does not disclose such a configuration but simply discounts the feature based on the case *In re Leshin*. Specifically, the Examiner alleges that it "would have been obvious ... to utilize a regular transformer, since it has been held to be within the general skill of a worker in the art to select a known device on the basis of its suitability for the intended use as a matter of obvious design choice." It is respectfully submitted that the Examiner's reliance on this case law in the present application is misplaced. Specifically, the holding of *In re Leshin* is NOT relevant to the present application. As noted in the opinion of the case (if the Examiner needs a copy of the case, one can be forwarded to the Examiner), the applicant in *In re Leshin* was arguing that although the ***prior art showed*** his claimed material, the fact that he selected the material based on its suitability for ***his*** intended purpose rendered his invention non-

obviousness. The Examiner is directed to the MPEP § 2144.07, second paragraph, which refers to *In re Leshin* as holding:

selection of a known plastic to make a container of a type *made of plastics prior* to the invention was held to be obvious. (emphasis added).

In other words, the case relies on the fact that the prior art *shows* the claimed material *used in the claimed apparatus* and therefore concludes that merely selecting the known material in the same type of apparatus "on the basis of its suitability for the intended use" (as set forth by the Examiner in the outstanding Office Action) is obvious.

In contrast, in the instant case, as admitted by the Examiner, Ikeda does not show a "transformer whose windings are made of plate-shaped conductors" used in the claimed combination. Therefore, a transformer whose windings are made of plate-shaped conductors specifically in combination with a switching power supply unit was NOT made "prior to the invention," as was the fact in *In re Leshin*. Accordingly, the Examiner's allegation that using the claimed transformer-type specifically in a particular switching power supply unit is well known is NOT a proper basis on relying on *In re Leshin*. Instead, reliance on the holding of *In re Leshin* requires the prior art to actually show the claimed transformer in a switching power supply unit, and even then, only to the limited extent where the Applicant argues that his/her selection of the material is based on his/her specific intended purpose.

It should further be noted that *In re Leshin* refers to a claim to a broad-ranged generic material group (i.e., plastics) that includes many species. In contrast, the specifically claimed transformer-type of the present invention is an *individual* species, thereby further distinguishing the present application to the facts of *In re Leshin*.

In summary, it is respectfully submitted that the holding in *In re Leshin* does NOT extend to the facts of this case. Specifically, *In re Leshin* simply holds that claiming a generic material

for an apparatus is obvious over prior art that shows the same generic material for a similar apparatus, even though the applicant uses the material for a different purpose. In the instant case, Applicants are claiming a specific transformer for an apparatus, where the prior art does NOT show the specific transformer in a similar apparatus. The Examiner is directed to MPEP § 2144, under the subtitle "Legal Precedent Can Provide the Rationale Supporting Obviousness **Only** if the Facts in the Case are **Sufficiently Similar** to those in the Application" (emphasis added), which sets forth the applicable standard for relying on case law.

For all the foregoing reasons, it is respectfully submitted that the facts of *In re Leshin* are NOT "sufficiently similar" to the facts of the instant application. Accordingly, it is respectfully submitted that the Examiner's reliance on *In re Leshin* for supporting the proposed rejection is improper, thereby obviating the pending rejection. The cited prior art provides no other motivation for providing the specifically claimed transformer-type in the particularly claimed switching power supply unit in a single combination.

Moreover, it is respectfully submitted that the claimed combination can provide new and unexpected results which are not suggested nor contemplated by the cited prior art, thereby effectively rebutting any allegation of obviousness of the claimed combination pursuant to MPEP § 2144.05(III) ("Rebuttal Of *Prima Facie* Case Of Obviousness"). Specifically, as described in detail in Applicants' specification, the claimed combination can make it possible to reduce the amplitude of voltage to be applied on the primary side so as to reduce the noise source itself. More specifically, even with a multilayer board or a stack of planar conductors having a large stray capacity, less noise is transmitted through the windings, thereby achieving a highly stable switching power supply unit. Whereby, in a distributed power supply system for semiconductor devices such as microprocessors, the present invention is effective as a switching

power supply unit for producing a low voltage of, e.g., 1V suitable to the operation of the semiconductor devices from a comparatively high bus voltage of, e.g., 48V. These and other benefits of the present invention, proving non-obviousness of the claimed ***combination***, are described throughout Applicants' specification by comparisons made with *conventional switching power supply units using traditional transformer-types* (see, e.g., page 24, line 24 – page 28). Only Applicants have recognized and considered said effects and conceived of, and provided motivation for, the novel and non-obvious claimed combination which can realize said effects.

The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard for establishing obviousness under § 103:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejection does not "establish *prima facie* obviousness of [the] claimed invention" as recited in claim 8 because the cited prior art fails the "all the claim limitations" standard required under § 103.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 8 is patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection of claims 8 and 10-14 under 35 U.S.C. § 103 over Ikeda (and *In re Leshin*) be withdrawn.

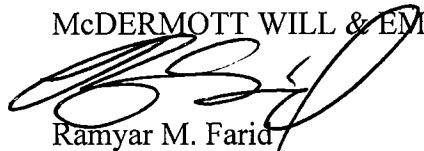
CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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